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Bjarne Schon

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EXAMINER

DANNEMAN, PAUL

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/675,591	<b>Applicant(s)</b> SCHON, BJARNE	
	<b>Examiner</b> PAUL DANNEMAN	<b>Art Unit</b> 3627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5-11,13-20,22,25,28,31 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-11, 13-20, 22, 25, 28, 31 and 33-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

#### DETAILED ACTION

##### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 February 2010 has been entered.

##### **Response to Amendment**

2. This Office Action is in response to Applicant's filing on 22 February 2010 for Continued Examination.

3. Claims 2, 12, 21, 23-24, 26-27, 32 and 40 were previously cancelled.

4. Claims 1, 5, 13-14, 20, 22, 31, 33-34 and 36 have been amended and Claims 3-4, 29-30 and 38-39 have been cancelled.

5. Claims 1, 5-11, 13-20, 22, 25, 28, 31 and 33-37 are pending and have been examined in this Office Action.

6. The rejection of Claim 20 under 35 U.S.C. § 112, second paragraph is respectfully withdrawn as the claim has been properly amended.

7. The rejection of Claim 38 under 35 U.S.C. § 112, second paragraph is respectfully withdrawn as the claim has been cancelled.

##### **Response to Arguments**

8. Applicant argues regarding the rejection under 35 U.S.C. § 103(a) of Claim 1 as amended to include the limitations of dependent Claims 3 and 4 that ***"the Examiner stated that the claimed adding of information about the item to an RF tag on a pallet is disclosed by Swan column 4, lines 19-27. Applicant again respectfully disagrees. The cited section arguably discloses placing a tag on a pallet. Swan never however teaches or suggests that its tag on its pallet includes any information***

***about an item on the pallet.***” Respectfully the Examiner disagrees the cited portion of Swan discloses that a tagged item is an item that carries a self identifying tag which might be associated with a single item or it might be associated with a collection of items such as **“a case containing a collection of items of various types, or a pallet containing may cases, and etc.”**

9. Applicant argues ***“On page 8 of the Office Action, the Examiner stated that the claimed writing of information to a tag on an item is disclosed by Swan U.S. Pat. No. 6,901,304 (hereinafter “Swan”) column 14, lines 19-23. Applicant respectfully disagrees. The cited section of Swan states that ‘particular applications may require writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any site.’ Swan never however states what information is written to an item tag. It certainly does not disclose the date and time information recited in amended claim 1. Swan similarly does not provide any suggestion to include such information.”*** Respectfully the Examiner must disagree besides Column 14, lines 19-23, Swan in at least Column 16, lines 1-13 discloses that disposition messages are of the form: Timestamp, Batch-ID, and Item-ID.

Therefore, it would have been obvious, at the time of the invention to modify the combination of Swartz/Swan to write the item related properties (name, description, item ID, weight, and a timestamp of when the item was palletized) to the pallet’s RFID tag with the motivation of insuring that the order is properly filled with the correct items. Therefore, Claims 1, 3 and 4 were properly rejected as is amended Claim 1.

10. Applicant argues regarding the rejection of **Claim 13** under 35 U.S.C. § 103(a) is directed to the amended dependent Claim 13 which depends on the amended Claim 1 and is addressed by a new grounds of rejection as shown below.

11. Applicant argues regarding the rejection of **Claim 14** under 35 U.S.C. § 103(a) that the claim as amended is allowable. Respectfully the Examiner disagrees and a new ground of rejection has been entered for amended Claim 14 as shown below.

12. Applicant argues regarding the rejection of dependent **Claim 18** that ***“the Examiner has not provided any factually supported reasoning for why it would be obvious to modify the references***

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*in order 'to keep a shopper focused on the purposes of their trip.'*” Respectfully the Examiner disagrees, as modifying the art to return the display after a pre-determined time to the shopping list (pick list) after browsing information about an item with the motivation of keeping the shopper (picker) focused on the purposes of their trip is properly motivated.

13. Applicant argues regarding the rejection of **Claim 22** that the cited reference is directed towards grocery shopping and that it seems unlikely that a correct weigh balance would be needed or would provide any benefit therefore it would be obvious to modify Swartz to include such a weight balance. Respectfully the Examiner must disagree. Anyone who has shopped for groceries will rarely encounter a "bagger" placing heavy items on top of a loaf of bread or bagging items such as wine bottles with the "corked" end facing the bottom of a bag (sack) therefore there is proper motivation for modifying Swartz's instructions regarding where to place items on the pallet to obtain a correct weight balance.

14. Applicant did not challenge the Examiner's taking of **Official Notice** regarding **Claim 31**, which clearly gives a real life Example (reference) and provides a motivation and /or suggestion to combine the relied upon notice with the other art of record; however, Applicant has not provided adequate information or argument so that on *its face* creates a reasonable doubt regarding the circumstances justifying the Official Notice. To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37CFR1.111 (b). See also *Cheveanard*, 139 F.2 d at 713,60 USPQ at 241. Therefore, the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. See MPEP 2144.03.

### ***Specification***

15. The amendment filed 22 February 2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claim 13 contained the following limitation which is not supported in the

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specification ***“the information including temperature and shock information.”*** The Specification contains ***“temperature or shock information”***

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 103***

16. **Claims 1, 5-11 and 13-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al., US 6,837,436 B2 hereinafter known as Swartz and in further view of Swan et al., US 6,901,304 B2 hereinafter known as Swan and further in view of Francis et al, US 6,600,418 B2 (“Francis”) and further in view of De Wilde, US 2004/0069850 A1.

**Claim 1:**

With regard to the limitations for an order filling system:

- ***Receiving a list transmitted to a first device coupled to the pallet, including a plurality of items that are representative of the order;***
- ***Transmitting the list from the first device to a second device on the product moving device;***
- ***Displaying the list to an operator on a display device on the product moving device, the display of the list including a quantity of the item needed for the order, a quantity of the item currently present on the pallet, and a quantity of the item remaining to be placed on the pallet to complete the order;***

Swartz in at least Column 2, lines 54-67 discloses a portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. The portable terminal is also provided with item-related information, as required, to assist in selecting items such as product ingredients, nutritional data, price information, promotional data, and government subsidized information (e.g., applicability of food stamps). The system could also be employed to permit efficient collection of the listed items, or in the case of an attendant

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collecting items for order fulfillment for multiple customers, efficient collection and tracking of multiple customer orders. The system could be used to present information to an employee regarding a customer's particular requirements (Swartz, Column 3, lines 1-8).

Swartz in at least Column 39, lines 32-50 provides support for a first, second and third device between which the shopping list may be transferred. The first device could be a key-fob with limited or no display, the second device may be a portable terminal used by the customer having a display attached to a shopping cart with the mode of transmission being optical, acoustical, via radio frequency or a simple hardware connection.

Swartz does not specifically disclose a tag reading pallet (first device coupled to the pallet), However Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car.

Swan in at least Column 2, lines 20-46 discloses that the present invention related to tracking items which can be RFID tagged can include means for receiving from multiple enterprises multiple instances of tag-read-data read from a RFID tag bound to an item including the automatic reading of a tag and using the tag-read-data received from multiple enterprises to maintain disposition information for the items.

Swan in at least Column 2, lines 46-67 further discloses that the system can be implemented so that the disposition information includes a plurality of item attributes. The system can also have multiple enterprises which include a source enterprise and a destination enterprise; the source enterprise has an order document for an order placed by the destination enterprise which includes visibility of the relationships between the tag-read-data and business documents including the order document and the shipping document; and means for providing the enterprises with real-time visibility of the disposition of items further include means for receiving shipping information including the following: tag identifier for items corresponding to goods in the shipment; information associating each tag identifier with a shipment number and information associating the shipment number with an order number and order document.

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Swan in at least Column 4, lines 50-61 further discloses that each enterprise has multiple tag readers that feed digital information from digitally identifiable tags into a local item tracking system (ITS). Readers can be positioned on the manufacturing line, in storage locations, in shipping and receiving areas, at loading docks, within trucks or other moving vehicles, and can also be hand-held wireless connected devices and are capable of feeding digital data collected from any item or container. Swan in at least Column 4, lines 67 and Column 5, lines 1-9 further discloses that the tag can be passive or active (having processing capacity) and may also be digitally identifiable.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine Swartz's multi-device shopping list transmission with Swan's smart (active) tag and a plurality of RFID readers/writers with the motivation of allowing a moving device to contain a list of all items (an order, status of the order and quantities) which are on the moving device or will be placed on the device with the motivation to insure a complete and accurate accounting of an order's contents.

- ***Placing one of the plurality of items on the list on the pallet;***
- ***Detecting the one of the plurality of items placed on the pallet by receiving a signal from a tag on the item and identifying the item based on the received signal;***
- ***Reflecting detection of one of the plurality of items on the list displayed on the display device reflecting the quantity of items on the pallet and the quantity of the item remaining to be placed on the pallet to complete the order; and***

Swartz in at least Column 2, lines 12-21 discloses a portable shopping and order fulfillment system retrieving associated data files stored at remote addresses through a wireless communication network and storing the list on the portable terminal (Swartz, Column 7, lines 50-51). Swartz in at least Column 2, lines 41-53 further discloses that an authorized user may remotely or locally access the order system to create a shopping list for items that the user may pickup individually at the store or the shopping list may be used to collect the items for delivery. Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected,



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either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 6, lines 20-23 discloses that the portable terminal may be a hand-held device or it may be permanently mounted or mounted in a manner that the portable terminal is removable from a shopping cart or other device designed to carry products selected by a user.

Swartz does not specifically disclose a tag reading pallet, However Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 4, lines 62-67 discloses that the tag is an RFID (radio frequency identification) tag and can be read without making physical contact with the tag. Swan in at least Column 4, lines 67 and Column 5, lines 1-9 further discloses that the tag can be passive or active (having processing capacity) and may also be digitally identifiable.

Swan in at least Column 13, lines 34-41 discloses a packing list typically of the form: Item-Type Quantity list. Swan in at least Column 15, lines 33-46 further discloses that when the item is shipped the local ERP or logistics system has an entry that says a certain list of item types and quantities should be shipped to a certain customer and can verify that the item types and quantities were actually shipped.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine Swartz's multi-device shopping list transmission with Swan's smart (active) tag with the motivation of allowing a pallet to contain a list of all items which are on the pallet or will be placed on the pallet with the motivation of accurately completing an order.

- ***Electronically displaying a route within the store to obtain items on the list.***

Swartz in at least Column 40, lines 60-67 and Column 41, lines 1-7 discloses that the portable terminal includes a graphical user interface that simulates a store layout, i.e., aisles with items in

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them as they are stacked within the store permitting customer, store employees and other personnel who stock the shelves to use the graphical user interface to locate the correct location for the items. Swartz in at least Column 41, lines 8-19 further discloses that the system can assist a customer in finding items on the customer's shopping list by presenting graphical images which may blink and/or direction either in graphical format or identification of the aisle and shelf number indicating the location of the items the customer intends on purchasing. Swartz in at least Column 47, lines 59-67 and Column 48, lines 1-5 further discloses that the system may be provided with a GPS system as generally known in the art.

- ***Adding information about the one of the plurality of items to an RF tag on the pallet, the information including a name of the item, a description of the item, an item ID and a weight of the item.***
- ***Adding information to the tag on the one of the plurality of items, the information including a date and a time the item was added to the pallet.***

Swartz in at least Column 2, lines 21-25 discloses an item being identified by a portable terminal. Swartz in at least Column 4, lines 58-67 further discloses that the portable terminal's machine code reader can be a bar code reader, a radio frequency tag reader, a CCD or CMOS imager or any other type of machine code reader which can decode encoded indicia on an article and/or collect data by means of optical, radio, or other means.

Swartz in at least Column 2, lines 54-67 discloses that the portable hand-held terminal displays the list of items to be collected. Swartz in at least Column 20, lines 18-27 further discloses the portable terminal displaying product information such as price, product name, quantity and nutritional information.

Swartz does not specifically disclose adding information to an RF tag on the pallet as per the limitations above.

However, Swan in at least Column 1, lines 52-67 discloses a system including means for receiving from a first enterprise multiple instances of tag-read-data, each instance including information read from a tag bound to an item, the information read including a unique tag

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identifier read automatically from the tag, each instance also including a location of the corresponding tag and its bound item. Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 4, lines 62-67 discloses that the tag is an RFID (radio frequency identification) tag and can be read without making physical contact with the tag.

Swan in at least Column 14, lines 19-23 discloses writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any location.

Francis in at least Column 2, lines 47-65 discloses an RFID tag attached to objects (such as pallets and loads) and to locations (such as storage location, pass-through location, or loading dock). In the case of a pallet, the information transmitted from the tag may include the identity of the pallet, the weight of the pallet, and an identification of the items on the pallet.

Therefore, it would have been obvious, at the time of the invention to combine Swartz/Swan with Francis and to further modify the combination to write the item related properties (name, description, item ID, weight, and a timestamp of when the item was palletized) to the pallet's RFID tag with the motivation of insuring that the order is properly filled with the correct items.

**Claims 5-6:**

With regard to the limitations:

- ***Providing delivery and transport information to the RF tag on the pallet, the information including a delivery address, a freight company, and interim transit points.***
- ***Displaying information for each of the plurality of items on separate lines of the display device;***
- ***Displaying different types of information for each of the plurality of items in separate columns within each of lines; and***

- ***Wherein one of the separate columns includes location information for each of the plurality of items***

Swartz in at least Column 2, lines 54-67 discloses that the portable hand-held terminal displays the list of items to be collected. Swartz in at least Column 20, lines 18-27 further discloses the portable terminal displaying product information such as price, product name, quantity and nutritional information.

Swartz does not specifically disclose adding information to an RF tag on the pallet as per the limitations above.

Swan in at least Column 14, lines 19-23 discloses writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any location.

Swan in at least Column 15, lines 21-46 further discloses that as an item moves within a warehouse and ultimately shipped to a customer the local ERP or logistics system has an entry that says a certain list of item types and quantities should be shipped to a certain customer. The system may provide the following identification and verification capabilities: (1) Identify the specific items to be shipped. (2) Verify that all the item types and quantities designated are in fact associated with the shipment. (3) Identify all shipments intended to go onto specific transport vehicle, for example the shipments to be loaded onto a specific truck. (4) Verify that all items are indeed loaded onto the correct transport vehicle.

Swan in at least Column 15, lines 50-55 discloses that the system can optionally allow RFID sensing of shipment at its destination to act as proof of delivery and trigger billing. The system can optionally capture delivery time for shipment dynamically and update internal delivery time estimation.

Swan in at least Column 15, lines 56-67 and Column 16, lines 1-3 further discloses that in going from stockroom to shipping the local ERP system reports a planned shipment to a local ITS. As the order is filled the reader sends a sequence of disposition messages to the system, of the form: Timestamp, Batch-ID, and Item-ID. Any discrepancies in an order are quickly discovered and corrected.

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Swan in at least Column 16, lines 4-23 further discloses that RFID readers associated with a particular vehicle (transport or shipment), a loading dock, etc. is used to discover any discrepancies in an order and to correct the discrepancies.

The combination of Swartz and Swan do not specifically disclose the data being presented as per the limitations above, however it would have been obvious, at the time of the invention, to one of ordinary skill to modify Swartz/Swan in particular Swan's local ERP and ITS (inventory tracking system) to display the data specified in the limitations above in a row and column matrix format with the motivation to allow for related data to be easily read and understood.

**Claim 7:**

With regard to the limitations:

- ***Storing information associated with the product moving device to the RF tag on the pallet, the information including an indication of a forklift, the operator, and a time of day.***

Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 6, lines 20-23 discloses that the portable terminal may be a hand-held device or it may be permanently mounted or mounted in a manner that the portable terminal is removable from a shopping cart or other device designed to carry products selected by a user. Swartz in at least Column 45, lines 3-6 further discloses a third party that specializes in receiving and picking orders for customers

Swartz in at least Column 46, lines 6-17 further discloses that items collected by the attendant may be placed in containers with coded tags which may be registered by the attendant with the terminal and associated with one of a plurality of customers and containers.

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Swartz in at least Column 47, lines 38-44 further discloses that the system provides dynamic tracking of goods including location of the items and expected delivery time.

Swartz does not specifically disclose adding information to an RF tag on the pallet as per the limitation above, however Swan in at least Column 1, lines 52-67 discloses a system including means for receiving from a first enterprise multiple instances of tag-read-data, each instance including information read from a tag bound to an item, the information read including a unique tag identifier read automatically from the tag, each instance also including a location of the corresponding tag and its bound item. Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 4, lines 62-67 discloses that the tag is an RFID (radio frequency identification) tag and can be read without making physical contact with the tag. Swan in at least Column 14, lines 19-23 discloses writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any location.

Swan in at least Column 15, lines 21-46 further discloses that as an item moves within a warehouse and ultimately shipped to a customer the local ERP or logistics system has an entry that says a certain list of item types and quantities should be shipped to a certain customer. The system may provide the following identification and verification capabilities: (1) Identify the specific items to be shipped. (2) Verify that all the item types and quantities designated are in fact associated with the shipment. (3) Identify all shipments intended to go onto specific transport vehicle, for example the shipments to be loaded onto a specific truck. (4) Verify that all items are indeed loaded onto the correct transport vehicle.

Swan in at least Column 15, lines 50-55 discloses that the system can optionally allow RFID sensing of shipment at its destination to act as proof of delivery and trigger billing. The system can optionally capture delivery time for shipment dynamically and update internal delivery time estimation.

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Swan in at least Column 15, lines 56-67 and Column 16, lines 1-3 further discloses that in going from stockroom to shipping the local ERP system reports a planned shipment to a local ITS. As the order is filled the reader sends a sequence of disposition message to the system, of the form: Timestamp, Batch-ID, and Item-ID. Any discrepancies in an order are quickly discovered and corrected.

Swan in at least Column 16, lines 4-23 further discloses that RFID readers associated with a particular vehicle (transport or shipment), a loading dock, etc. is used to discover any discrepancies in an order and to correct the discrepancies.

Swan in at least Column 14, lines 19-23 discloses writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any location.

The combination of Swartz/Swan does not specifically disclose the operator identification, forklift identification and timestamp being written to the RF tag on the pallet. However, it would have been obvious, at the time of the invention to modify the combination of Swartz/Swan to write the operator identification, forklift identification and a timestamp to the container/pallet of the order with the motivation of insuring that a pick-history is available and useable for locating and correcting any pick discrepancies.

#### Claims 8-10:

With regard to the limitations:

- ***Indication of next item in the list and the map for the location of that item.***
- ***Displaying on the map location of other product moving devices and blocked aisles.***

Swartz in at least Column 40, lines 62-67 discloses the portable terminal with a graphical user interface that simulates a store layout, i.e., aisles with items in them as they are stacked within the store permitting the user to find items within the store. Swartz in at least Column 41, lines 8-14 discloses that the shopping system can assist a customer in finding items on the customer's shopping list by blinking on the display the location of the items.

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Swartz in at least Column 39, lines 32-50 further discloses that the shopping list could be transferred to a device with a larger display.

Swartz in at least Column 41, lines 16-19 further discloses that a customer may be provided with directions either in graphical format or identification of the aisle and shelf number of a product that the customer is searching for.

Swartz in at least Column 20 lines 65-67 further discloses that the system is able to track in real-time the location and direction of travel of the portable terminal and hence the customer. Swartz in at least Column 21, lines 1-17 further discloses using global positioning satellites (GPS), radio frequency identification (RFID), access point (AP) triangulation or similar technology to determine the location and/or travel direction of the portable terminal and/or the customer. Swartz in at least Column 21, lines 43-54 further discloses identifying bottleneck areas within a store and managing traffic in real-time by encouraging some customers to move to another area.

Swan does not specifically disclose a map as per the limitations per se; however in at least Column 1, lines 25-51 discloses the use of item tags to locate an item and confirm the completeness of a shipment (order). Swan in at least Column 11, lines 63-67 and Column 12 lines 1-11 discloses the use of TPS (global position satellite) receivers to receive item location information.

Francis in at least Column 8, lines 28-65 discloses an operator of pallet truck being instructed by the display of a map and/or a set of direction to pick location.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine the Swartz/Swan combination Francis' map and to modify the Swartz//Swan/Francis combination with the ability to display a map indicating the location of product moving devices and of blocked aisles.

**Claim 11:**

With regard to the limitations:



- ***Handling instructions can be received at the display for the plurality of items including an order in which to load the plurality of items onto the pallet.***

Swartz in at least Column 2, lines 59-67 discloses the portable terminal being provided with item-related information such as delivery instructions and packing requests and in at least Column 3, lines 9-14 illustrative help and instructional files associated with the selected item. Therefore, it would be obvious, at the time of the invention, for one of ordinary skill to modify Swartz's instructions regarding the selected item with a feature to provide instructions with respect to handling and loading and/or packing with the motivation to provide the customer and the person stocking or picking the shelves with information regarding the proper and safe way to handle an item.

**Claim 13:**

With regard to the limitations:

- ***Adding information related to storage of the one of the plurality of items to the tag on the one of the plurality of items,***
- ***The information including temperature and shock information.***

Swartz in at least Column 2, lines 59-67 discloses the portable terminal being provided with item-related information such as delivery instructions and packing requests and in at least Column 3, lines 9-14 illustrative help and instructional files associated with the selected item.

Swartz does not specifically disclose storing the storage information of an item on its item tag.

Swan in at least Column 14, lines 19-23 discloses writing data to an item tag at some stage where the tag is sensed. The system can write and read such tag data at any location.

Francis does not disclose the RFID tags being used to record temperature and shock per se, however in at least Column 7, lines 29-40 discloses that RFID tags may be passive or active devices such as those as Intellitag and available from Intermec Technologies Corporation, Everett, Washington.

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De Wilde in at least paragraph [0026] discloses that RFID tags may be used to measure and record temperature and shock.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine Swartz/Swan/Francis with De Wilde's RFID tags combination to write onto an item's tag item related information related to storage information, instructions, temperature and shock with the motivation to provide traditional product label information to a customer and recording information that may affect a product's warranty.

**Claim 14:**

With regard to the limitation:

- ***Querying the operator about additional items not on the list; and***

Swartz in at least Column 34, lines 41-67 and Column 35, lines 1-10 discloses that the system can determine a correlation between a scanned item and an item previously purchased, but not currently selected and can display a message to the consumer reminding the consumer that they normally purchase the items. Swartz in at least Column 40, lines 13-23 discloses a customer being provided promotions for items which compete with an item on the list. Swartz in at least Column 40, lines 23-34 further discloses that if a customer scans a related item (e.g., the related item may be a different size or a competing product) not on the list the system may send a message to the customer indicating that the selected item is not on the list. The customer may ignore the message or change their product selection. Swartz in at least Column 38, lines 2-6 further discloses that a customer may receive messages offering discounts for items not on the shopper's list. Swartz in at least Column 34, lines 28-40 discloses sending messages to customers about products as the customer approaches a product or a specific section of the store.

- ***Preventing the moving device from moving when an item not on the list is placed on the pallet.***

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The combination of Swartz and Swan does not specifically disclose the limitation above, however Swan in at least Column 15, lines 56-67 and Column 16, lines 1-3 further discloses that in going from stockroom to shipping the local ERP system reports a planned shipment to a local ITS. As the order is filled the reader sends a sequence of disposition message to the system, of the form: Timestamp, Batch-ID, and Item-ID. Any discrepancies in an order are quickly discovered and corrected.

Swan in at least Column 16, lines 4-23 further discloses that RFID readers associated with a particular vehicle (transport or shipment), a loading dock, etc. is used to discover any discrepancies in an order and to correct the discrepancies.

Francis in at least Column 3, lines 14-25 and Column 4, lines 49-56 discloses an alarm being sent to the operator to inform the operator whether the correct object has been picked up or whether the object has been positioned at the correct location and further instructing the operator on the tasks to be performed. Francis in at least Column 8, lines 61-65 discloses immediately identifying an operator error with respect to the identity, location and movement of a load so that corrective action may be immediately taken and in Column 9, lines 1-8 updating the history/status of the pallet in its RFID tag. Francis in at least Column 12, lines 45-57 discloses that the lift truck may be programmed to automatically raise and stop the forks at a desired height.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine the Swartz/Swan combination with Francis's alarm and corrective action with the ability to prevent the moving device from proceeding from the location where an un-listed (wrong) item is placed on the pallet until the discrepancy is corrected, with the motivation to insure the accuracy of a customer's order.

- ***Providing a manual override function to allow the moving device to move; and adding a notation that the override function was utilized.***

The combination of Swartz/Swan does not address the limitation above, however Francis in at least Column 12, lines 58-67 discloses that a specific embodiment of the invention provides for a fully automated system for identifying, moving and tracking objects throughout the warehouse

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operation to minimize the possibility of error. Francis in at least Column 9, lines 1-8 discloses updating the history/status of the pallet in its RFID tag when corrective action has been taken. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan/Francis combination to add a manual override to the product moving device with the motivation to complete the picking of an order and annotating the pick list with any anomalies encountered.

**Claims 15-17:**

With regard to the limitations:

- ***Determining if a second detected item is or is not on the list or is in a different format.***
- ***Adding the second detected item to the shopping list in a different format (bold color) of items originally on the list.***
- ***Alerting user that second detected item is not on the list.***

Swartz in at least Column 40, lines 23-34 discloses notifying the customer that an item detected is not on the shopping list, is of a different size or format, or is a competing product and the system is also able to determine the relationship between a scanned item and an item not on the shopping list and the system may send a message to the customer indicating that the selected item is not on the list. Swartz does not specifically disclose that the shopping list is updated on the display with any item detected that's not on the shopping list per se. However, Swartz in at least Column 17, lines 18-29 discloses records related to a particular customer on a particular date indicating the total quantity of items that the customer purchased and a chronological list of the order that each item was selected and purchased. Swartz in at least Column 20, lines 28-40 further discloses that the portable terminal is provided with activation buttons allowing the user to perform various functions like adding an item selected by the consumer to a list of purchased items, a key to remove a previously selected item from the purchase list, a key to perform a price

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check or other information check and a key to display the total cost of the items selected for purchase.

Swan does not specifically disclose the limitations above.

However, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan combination and specifically Swartz's message to the customer indicating an item discrepancy by displaying the unlisted item with an indicator (i.e. bolding the description and/or color coding the unlisted item or blinking the item) with the motivation of allowing a customer to quickly validate differences between their original shopping list and the newly updated shipping list for budgetary and other purposes.

**Claim 18:**

With regard to the following limitations:

- ***Accessing additional data about an item, displaying the data on a display device and returning to the list after a predetermined period of time.***

Swartz/Swan do not specifically disclose returning to the list after a predetermined period of time, however Swartz in at least Column 5, lines 64-67, and Column 6, lines 1-3 discloses that the portable terminal includes a key for a customer to indicate that they would like additional information about an item (recipe, nutritional, etc.). Swartz in at least Column 33, lines 45-55 further discloses that the customer may download additional information about an item (instructions on use, comparisons to other products, websites, etc.). Swartz in at least Column 11, lines 1-25 discloses controlling the information that a customer can receive. Swartz in at least Column 11, lines 26-46 discloses using a third party administrator to filter and limit the amount of information sent to the portable terminal. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill, to modify the Swartz/Swan combination to return to the list after a predetermined period of time with the motivation to keep a shopper focused on the purposes of their trip.

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**Claim 19:**

With regard to the further limitation of Claim 18:

- ***Display device is a touch screen.***

Swartz in at least Column 5, lines 45-54 discloses that the portable terminal has a graphical display device having a touch sensitive surface.

**Claim 20:**

With regard to the limitation:

- ***Instructing the operator of the product moving device to take the pallet to a specific truck;***
- ***Reading the RF tag on the pallet with an RF reader on the specific truck; and recording the pallet as being loaded on the specific truck.***

Swartz does not specifically disclose the limitations above, however Swartz in at least Column 43, lines 55-58 discloses a customer receiving on the portable terminal a notification that an order has been fulfilled or is about to be fulfilled. Swartz in Column 44, lines 6-32 further discloses a customer checking into a checkout queue and a customer being assigned a “window” or an order on the queue wherein the customer can proceed to the checkout counter. The customer’s order on the queue may be determined by the order of their signing onto the queue, number and/or type of products and other factors.

Swan does not specifically disclose instructing the operator of the product moving device to take the pallet to a specific truck, however Swan in at least Column 4, lines 19-27 discloses that a tagged item can be any of the following: an individual item; an asset; a case containing a collection of items of various types, or a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Fig. 5A and Fig.5B discloses showing the location of a truck, a box containing a partial shipment of an item.

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Swan in at least Column 12, lines 46-67 discloses the use of disposition messages related to a disposition action of an item, includes for example” creation of an item, location change of an item, inventory check of an item, shipment, loading, unloading, and end of tracking of an item.

Swan in at least Column 13, lines 34-67 discloses that the local ERP system can retrieve the shipment information, match specific items to the generic item-types in the shipment list, and report discrepancies. Swan further discloses that planned shipments may be associated with a particular transport vehicle and the system can verify that the truck was correctly loaded.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan combination in particular Swan's ability to associate a shipment with a specific truck with instructing the operator of the moving device to take the pallet to a specific truck with the motivation of expediting the shipment of goods.

17. **Claims 22, 25, 28, 31 and 33-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al., US 6,837,436 B2, hereinafter known as Swartz and in further view of Swan et al., US 6,901,304 B2 hereinafter known as Swan and further in view of Spriestersbach et al., US 7,020,494 B2 hereinafter known as Spriestersbach.

**Claim 22:**

With regard to the limitation for an order filling system:

- ***A first computer system;***
- ***A pick list of order items;***
- ***A product moving machine with a reader connected to the first computer system;***
- ***A display device on the product moving machine for displaying the pick list;***
- ***Pick list is generated at the first computer system and transmitted to the first reader on the product moving machine;***

Swartz in at least Column 2, lines 12-21 discloses a portable shopping and order fulfillment system retrieving associated data files stored at remote addresses through a wireless

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communication network and storing the list on the portable terminal (Swartz, Column 7, lines 37-51) which has a processor and memory. Swartz in at least Column 2, lines 41-53 further discloses that an authorized user may remotely or locally access the order system to create a shopping list for items that the user may pickup individually at the store or the shopping list may be used to collect the items for delivery. Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 6, lines 20-23 discloses that the portable terminal may be a hand-held device or it may be permanently mounted or mounted in a manner that the portable terminal is removable from a shopping cart or other device designed to carry products selected by a user.

- ***A pallet having a tag and a second reader disposed thereon, the tag readable by the first reader on the product moving machine, the tag storing pallet identification and data related to the order including the pick list and wherein the second reader is configured to read data from the item tag of items placed on the pallet; and***
- ***Wherein the pallet tag is updated to include information from the item tag of each of the items placed on the pallet.***

Swartz does not specifically disclose a pallet having an identification tag per se; however Swartz in at least Column 3, lines 42-47 discloses a portable terminal with a unique address on the system. Swartz in at least Column 7, lines 4-21 discloses that the portable terminal is able to communicate with the central host through a wireless device. Swartz in at least Column 9, lines 22-67 further discloses that the portable terminal communicates with hosts and other components linked to a wide area network using Ethernet and IP addresses. Swartz in at least Column 11, lines 54-62 further discloses that to enable personalized communication between the host computer and the portable terminal the host must be able to identify the customer. The customer may enter a personal identification code or a personal identification code stored in the portable



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device may be transmitted to the host computer. Swartz in at least Column 11, lines 63-67 and Column 12, lines 1-21 discloses that personalized messages could be displayed on the portable terminal based on the customer's profile and/or on the profile of the products selected by the customer. Swartz in at least Column 19, lines 63-67, and Column 20, lines 1-27 discloses that the portable terminal could have a unique identification code associated with the portable terminal and ultimately associated with the customer.

Swartz in at least Column 2, lines 21-25 discloses an item being identified by a portable terminal. Swartz in at least Column 4, lines 58-67 further discloses that the portable terminal's machine code reader can be a bar code reader, a radio frequency tag reader, a CCD or CMOS imager or any other type of machine code reader which can decode encoded indicia on an article and/or collect data by means of optical, radio, or other means.

Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 1, lines 52-67 discloses a system including means for receiving from a first enterprise multiple instances of tag-read-data, each instance including information read from a tag bound to an item, the information read including a unique tag identifier read automatically from the tag, each instance also including a location of the corresponding tag and its bound item.

Spriestersbach in at least Column 12, lines 39-50 and lines 51-67 discloses attaching an RFID tag to each pallet, as well as a tag reader and a location-aware computer system to each forklift to provide location contextual information of a particular pallet based on the pallet ID which is stored on the pallet's RFID tag. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine Swartz's consumer interactive shopping system with the pallet contents of Swan and with the location-aware pallet and forklift system of Spriestersbach with the motivation of having not only the contents of the pallet, but also its location made available to interested parties.

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- ***An order information area having an order number, pallet ID, and a pick list areas; and***
- ***A user interface that allows an operator to view more details about a specific item on the order and to view other options not shown on the display device, the user interface area having a plurality of buttons activated by the operator, a display portion that provides information in response to the pushed button.***

Swartz does not specifically disclose the display device being updated to reflect the current quantity or the quantity remaining to fill an order per se. However, Swartz in at least Column 17, lines 18-29 discloses records related to a particular customer on a particular date indicating the total quantity of items that the customer purchased and a chronological list of the order that each item was selected and purchased. Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 20, lines 28-40 further discloses that the portable terminal is provided with activation buttons allowing the user to perform various functions like adding an item selected by the consumer to a list of purchased items, a key to remove a previously selected item from the purchase list, a key to perform a price check or other information check and a key to display the total cost of the items selected for purchase.

Swartz in at least Column 5, lines 49-53, and Column 7, lines 37-67 further discloses that the portable terminal has a display device that can function as a video display and a data input device. The portable terminal has several input devices including an optical character scanner and memory for storing an electronic shopping list, past purchasing history and/or coupons and location tracking features. Swartz in at least Column 20, lines 18-27 further discloses the portable terminal displaying product information such as price, product name, quantity and nutritional information.

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Swan in at least Column 2, lines 20-46 discloses that the present invention related to tracking items which can be RFID tagged can include means for receiving from multiple enterprises multiple instances of tag-read-data read from a RFID tag bound to an item including the automatic reading of a tag and using the tag-read-data received from multiple enterprises to maintain disposition information for the items.

Swan in at least Column 2, lines 46-67 further discloses that the system can be implemented so that the disposition information includes a plurality of item attributes. The system can also have multiple enterprises which include a source enterprise and a destination enterprise; the source enterprise has an order document for an order placed by the destination enterprise which includes visibility of the relationships between the tag-read-data and business documents including the order document and the shipping document; and means for providing the enterprises with real-time visibility of the disposition of items further include means for receiving shipping information including the following: tag identifier for items corresponding to goods in the shipment; information associating each tag identifier with a shipment number and information associating the shipment number with an order number and order document.

Swan in at least Column 4, lines 50-61 further discloses that each enterprise has multiple tag readers that feed digital information from digitally identifiable tags into a local item tracking system (ITS). Readers can be positioned on the manufacturing line, in storage locations, in shipping and receiving areas, at loading docks, within trucks or other moving vehicles, and can also be hand-held wireless connected devices and are capable of feeding digital data collected from any item or container. Swan in at least Column 4, lines 67 and Column 5, lines 1-9 further discloses that the tag can be passive or active (having processing capacity) and may also be digitally identifiable.

- ***A location area having a map of a warehouse, the map showing the location of the product moving machine within the warehouse;***

Swartz in at least Column 40, lines 60-67 and Column 41, lines 1-7 discloses that the portable terminal includes a graphical user interface that simulates a store layout, i.e., aisles with items in

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them as they are stacked within the store permitting customer, store employees and other personnel who stock the shelves to use the graphical user interface to locate the correct location for the items. Swartz in at least Column 41, lines 8-19 further discloses that the system can assist a customer in finding items on the customer's shopping list by presenting graphical images which may blink and/or direction either in graphical format or identification of the aisle and shelf number indicating the location of the items the customer intends on purchasing. Swartz in at least Column 47, lines 59-67 and Column 48, lines 1-5 further discloses that the system may be provided with a GPS system as generally known in the art.

Swartz in at least Column 20 lines 65-67 further discloses that the system is able to track in real-time the location and direction of travel of the portable terminal and hence the customer. Swartz in at least Column 21, lines 1-17 further discloses using global positioning satellites (GPS), radio frequency identification (RFID), access point (AP) triangulation or similar technology to determine the location and/or travel direction of the portable terminal and/or the customer. Swartz in at least Column 21, lines 43-54 further discloses identifying bottleneck areas within a store and managing traffic in real-time by encouraging some customers to move to another area.

Swan/Spriestersbach does not specifically disclose a map as per the limitations per se; however Swan in at least Column 1, lines 25-51 discloses the use of item tags to locate an item and confirm the completeness of a shipment (order). Swan in at least Column 11, lines 63-67 and Column 12 lines 1-11 discloses the use of TPS (global position satellite) receivers to receive item location information.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan/Spriestersbach combination with the ability to display a map indicating the location of product moving device.

- ***An information area having instructions indicating a specific arrangement required for placement of items on the pallet.***

Swartz/Swan/Spriestersbach does not specifically disclose instruction indicating a specific arrangement of items on the pallet; however Swartz in at least Column 2, lines 59-67 discloses

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the portable terminal being provided with item-related information such as delivery instructions and packing requests and in at least Column 3, lines 9-14 illustrative help and instructional files associated with the selected item. Therefore, it would be obvious, at the time of the invention, for one of ordinary skill to modify Swartz's instructions regarding the selected item with a feature to provide instructions with respect to handling and loading and/or packing with the motivation to provide the customer and the person stocking or picking the shelves with information regarding the proper and safe way to handle and pack/load an item onto a pallet.

- ***Wherein the specific arrangement includes arranging items on the pallet to obtain a correct weight balance***

Swartz/Swan/Spriestersbach combination does not specifically disclose instructions indicating a specific arrangement of items on the pallet; however Swartz in at least Column 2, lines 59-67 discloses the portable terminal being provided with item-related information such as delivery instructions and packing requests and in at least Column 3, lines 9-14 illustrative help and instructional files associated with the selected item. Therefore, it would be obvious, at the time of the invention, for one of ordinary skill to modify Swartz's instructions regarding the selected item with a feature to provide instructions with respect to handling and loading and/or packing and balancing the load with the motivation to provide the customer and the person stocking or picking the shelves with information regarding the proper and safe way to handle and pack/load an item onto a pallet to maintain a proper weight balance.

**Claim 25:**

With regard to the limitation:

- ***The product moving machine is a forklift, and***
- ***Wherein the pallet tag is placed on an inside portion of a support on the pallet.***

Swartz is somewhat silent regarding the use of a forklift. Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various

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types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car.

Spriestersbach in at least Column 12, lines 39-50 discloses attaching an RFID tag to each pallet, as well as a tag reader and a location-aware computer system to each forklift to take advantage of location context information.

The Swartz/Swan/Spriestersbach combination do not specifically disclose the location of the RFID tag on the pallet, however, it would have been obvious, at the time of the invention, to one of ordinary skill to locate the RFID tag on the inner structure of the pallet with the motivation to protect the tag from being damaged as the pallet is picked up and moved around.

**Claim 28:**

With regard to the limitation:

- *Wherein the reader of the product moving machine is configured to receive information from the tag on the pallet as items are placed on the pallet, and*
- *Wherein the pallet tag and the second reader are integrated into a single unit.*

Swartz in at least Column 2, lines 54-60 discloses a portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 39, lines 32-50 provides support for a first, second and third device between which the shopping list may be transferred. The first device could be a key-fob with limited or no display, the second device may be a portable terminal used by the customer having a display attached to a shopping cart with the mode of transmission being optical, acoustical, via radio frequency or a simple hardware connection.

Swartz does not specifically disclose a tag reading pallet, However Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 4, lines 62-67 discloses that the tag is an RFID (radio frequency identification) tag and can be read without making physical

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contact with the tag. Swan in at least Column 4, lines 67 and Column 5, lines 1-9 further discloses that the tag can be passive or active (having processing capacity) and may also be digitally identifiable.

Spriestersbach in at least Column 12, lines 39-50 and lines 51-67 discloses attaching an RFID tag to each pallet, as well as a tag reader and a location-aware computer system to each forklift to provide location contextual information of a particular pallet based on the pallet ID which is stored on the pallet's RFID tag. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan/Spriestersbach combination to use a smart tag which is a combined RFID tag reader/writer with the motivation of insuring that the contents of the pallet tag are current with the contents placed on the pallet.

**Claim 31:**

With regard to the further limitation of Claim 22:

- ***Wherein the specific arrangement included placing heavier items on the bottom of the pallet.***

Swartz/Swan/Spriestersbach does not specifically disclose instruction indicating a specific arrangement of items on the pallet; however Swartz in at least Column 2, lines 59-67 discloses the portable terminal being provided with item-related information such as delivery instructions and packing requests and in at least Column 3, lines 9-14 illustrative help and instructional files associated with the selected item.

The Examiner takes **OFFICIAL NOTICE** that the placement of heavier items at the bottom of a pallet, container, sack, etc. is common knowledge in the packing industry. For example when purchasing groceries it is quite common to place canned goods at the bottom of a bag and place lighter weight objects on top of the canned goods. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan/Spriestersbach combination with **OFFICIAL NOTICE** with the motivation to incorporate "common knowledge" regarding the placement of heavier, less fragile items at the bottom of a package (i.e. pallet, bin,

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container, bag, sack, etc.) to prevent the breakage/deformation of fragile objects and to prevent the packed items from tipping over and spilling from the package.

**Claim 33:**

With regard to the further limitation of Claim 22:

- ***Wherein in response to an item being placed on the pallet, the display device is configured to change the item's quantity present and quantity remaining.***

Swartz in at least Column 2, lines 12-21 discloses a portable shopping and order fulfillment system retrieving associated data files stored at remote addresses through a wireless communication network and storing the list on the portable terminal (Swartz, Column 7, lines 50-51). Swartz in at least Column 2, lines 41-53 further discloses that an authorized user may remotely or locally access the order system to create a shopping list for items that the user may pickup individually at the store or the shopping list may be used to collect the items for delivery. Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 6, lines 20-23 discloses that the portable terminal may be a hand-held device or it may be permanently mounted or mounted in a manner that the portable terminal is removable from a shopping cart or other device designed to carry products selected by a user.

Swartz does not specifically disclose a tag reading pallet, However Swan in at least Column 4, lines 19-27 discloses that a tag may be placed on a case containing a collection of items possibly of various types, or on a pallet containing many cases, and so on; a container; a truck or trailer; an airplane; a ship; and a railroad car. Swan in at least Column 4, lines 62-67 discloses that the tag is an RFID (radio frequency identification) tag and can be read without making physical contact with the tag. Swan in at least Column 4, lines 67 and Column 5, lines 1-9 further



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discloses that the tag can be passive or active (having processing capacity) and may also be digitally identifiable.

Swan in at least Column 13, lines 34-41 discloses a packing list typically of the form: Item-Type Quantity list. Swan in at least Column 15, lines 33-46 further discloses that when the item is shipped the local ERP or logistics system has an entry that says a certain list of item types and quantities should be shipped to a certain customer and can verify that the item types and quantities were actually shipped.

Spriestersbach does not specifically disclose the above limitation.

Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to combine Swartz's multi-device shopping list transmission with Swan's smart (active) tag with the motivation of allowing a pallet to contain a list of all items which are on the pallet or will be placed on the pallet with the motivation of accurately completing an order.

**Claim 34:**

With regard to the further limitation of Claim 22:

- ***Wherein the plurality of buttons include an up button, a down button, and a details button.***

Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 20, lines 28-40 further discloses that the portable terminal is provided with activation buttons allowing the user to perform various functions like adding an item selected by the consumer to a list of purchased items, a key to remove a previously selected item from the purchase list, a key to perform a price check or other information check and a key to display the total cost of the items selected for purchase.

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Swartz in at least Column 5, lines 49-53, and Column 7, lines 37-67 further discloses that the portable terminal has a display device that can function as a video display and a data input device. The portable terminal has several input devices including an optical character scanner and memory for storing an electronic shopping list, past purchasing history and/or coupons and location tracking features. Swartz in at least Column 20, lines 18-27 further discloses the portable terminal displaying product information such as price, product name, quantity and nutritional information.

Swan and Spriestersbach do not specifically disclose the limitations above, however it would have been obvious, at the time of the invention, to one of ordinary skill to modify Swan with buttons which perform the up and down cursor function and a details button with the motivation to allow a customer/user to easily navigate across the display pages.

**Claim 35:**

With regard to the further limitation of Claim 34:

- ***Further comprising a button associated with the pick list that enables the operator to return to the screen displaying the pick list.***

Swartz in at least Column 2, lines 54-60 still further discloses that when the items are collected, either by the customer or an attendant, the collector is provided with a portable hand-held terminal which displays the list of items to be collected. The portable terminal is in communication with a central host and may have a machine code reader to assist in recording selected items from the list. Swartz in at least Column 20, lines 28-40 further discloses that the portable terminal is provided with activation buttons allowing the user to perform various functions like adding an item selected by the consumer to a list of purchased items, a key to remove a previously selected item from the purchase list, a key to perform a price check or other information check and a key to display the total cost of the items selected for purchase.

Swartz in at least Column 5, lines 49-53, and Column 7, lines 37-67 further discloses that the portable terminal has a display device that can function as a video display and a data input

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device. The portable terminal has several input devices including an optical character scanner and memory for storing an electronic shopping list, past purchasing history and/or coupons and location tracking features. Swartz in at least Column 20, lines 18-27 further discloses the portable terminal displaying product information such as price, product name, quantity and nutritional information.

Swan and Spriestersbach do not specifically disclose the limitations above, however it would have been obvious, at the time of the invention, to one of ordinary skill to modify Swan with a return to pick list button with the motivation to allow a customer/user to easily navigate across the display pages.

**Claim 36:**

With regard to the following limitation for the order information area of Claim 22:

- ***Wherein the display device is configured to provide an alert if an item not on the pick list is placed on the pallet.***

Swartz in at least Column 40, lines 23-34 discloses notifying the customer that an item detected is not on the shopping list, is of a different size or format, or is a competing product and the system is also able to determine the relationship between a scanned item and an item not on the shopping list and the system may send a message to the customer indicating that the selected item is not on the list.

18. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al., US 6,837,436 B2, hereinafter known as Swartz and in further view of Swan et al., US 6,901,304 B2 hereinafter known as Swan and further in view of Spriestersbach et al., US 7,020,494 B2 hereinafter known as Spriestersbach and further in view of NPL\_RFID\_IEC\_18000.

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**Claim 37:**

With regard to the following limitation of Claim 22:

- ***Wherein the tags and the readers operate using radio frequency (RF), the RF selected from the group consisting of 125 KHz, 13.56 MHz and 800-900 MHz.***

The combinations of Swartz/Swan/Spriestersbach disclose the use of RFID throughout each disclosure; however they do not disclose the frequency of the RFID tags, RFID receivers, RFID Transmitters, etc. NPL\_RFID\_IEC\_18000 discloses an international standard that describes a series of diverse RFID technologies, each utilizing a unique frequency band including the frequencies disclosed in the limitation above. Therefore, it would have been obvious, at the time of the invention, to one of ordinary skill to modify the Swartz/Swan/Spriestersbach combination with frequency related design choices as per IEC 18000 which encompasses the limitations above, with the motivation to select the proper frequency for the application based on an International Standard.

**Conclusion**

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ebert et al., US 2003/0227392 A1, teaches a Context Aware and Real-Time Item Tracking System.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL DANNEMAN whose telephone number is (571)270-1863. The examiner can normally be reached on Mon.-Thurs. 6AM-5PM Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian Zeender can be reached on 571-272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Paul Danneman/

Examiner, Art Unit 3627

18 March 2010